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(54) Actuation cap assemblies for dispensing containers

(57) An actuator fitted to the valve of an aerosol dispensing can cooperates with an actuator-orientator assembly to orient the discharge orifice of the actuator into the proper position to spray a stripe of marking material. The actuator 15 havs a generally cylindrical outer surface 16 and is adapted to be mounted on the valve stem 12 of an aerosol can 10 and includes a spraying orifice 18 and a pair of radially outwardly extending locating lugs 20. The actuator-orientator 24 is provided with a circular central opening 24 into which the actuator is inserted, and a pair of recesses 27 which extend radially outwardly from the central opening for receiving the locating lugs 20 of the actuator when the actuator is properly oriented. One end of the central opening is defined by curved guide surfaces 26 which extend upwardly from the recesses 27. A guide surface 26 extends from each side of each recess 27 and meets a guide surface 26 from the other recess 27 at the midpoint 31 of the arc which extends between the recesses. When the actuator is inserted downwadly into the opening 28 of the orientator and the lugs 20 engage the guide surfaces 26, the actuator and aerosol can move downwardly and rotate along the guide surfaces until the lugs 20 are seated within the recesses 27.

FIG. 1

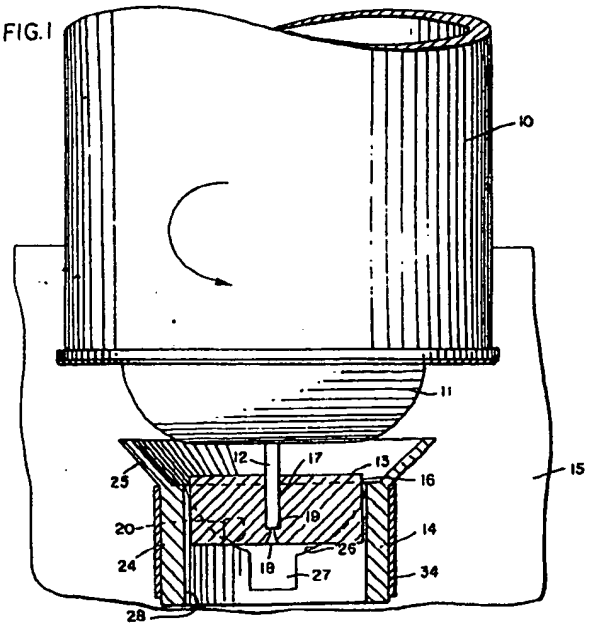

FIG. 4

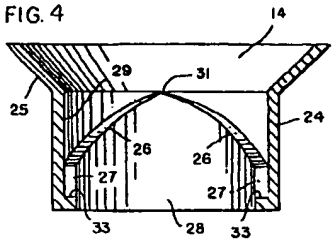

FIG. 6

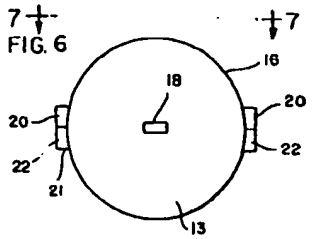

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FIG.1

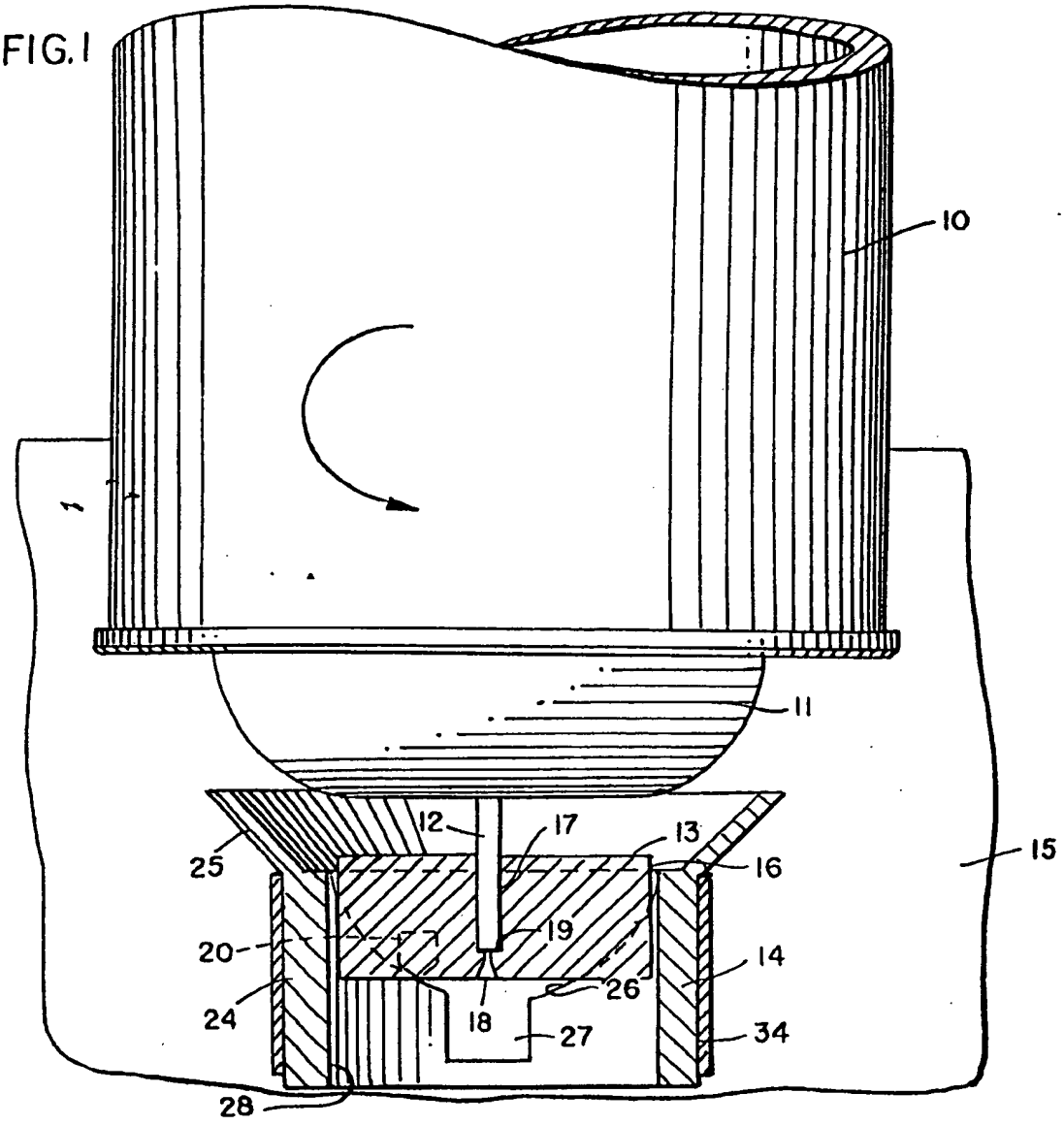

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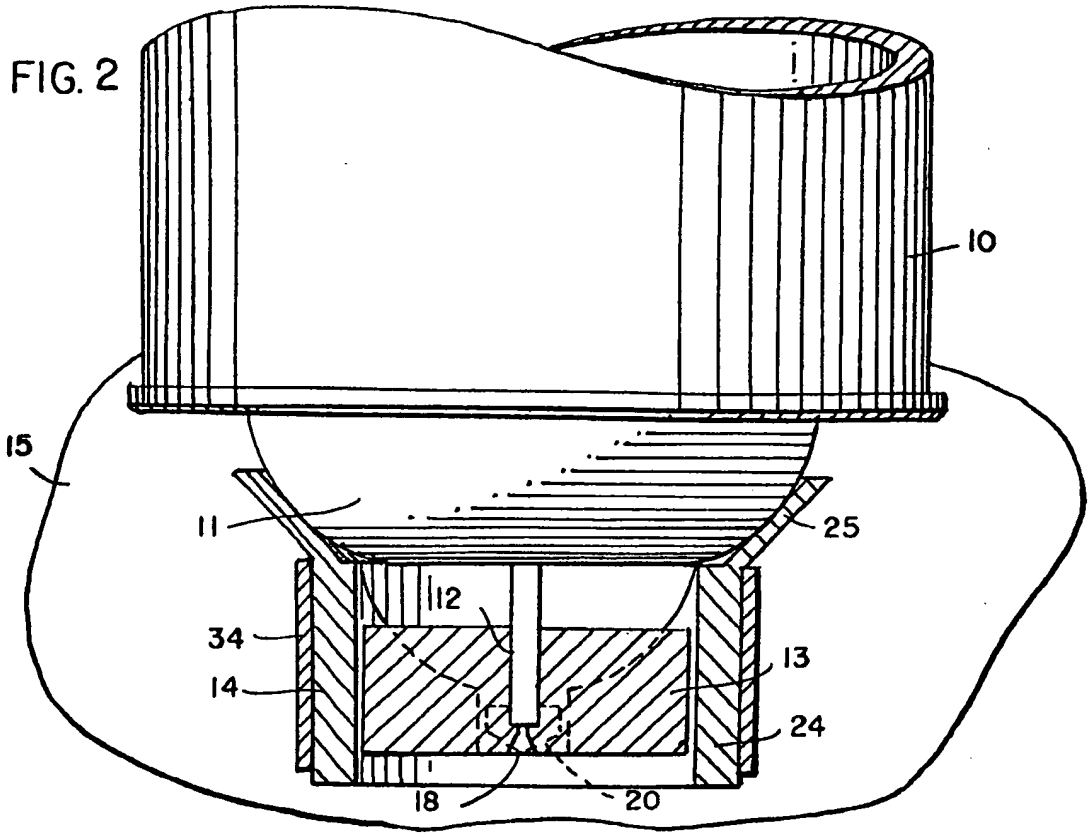
FIG. 2



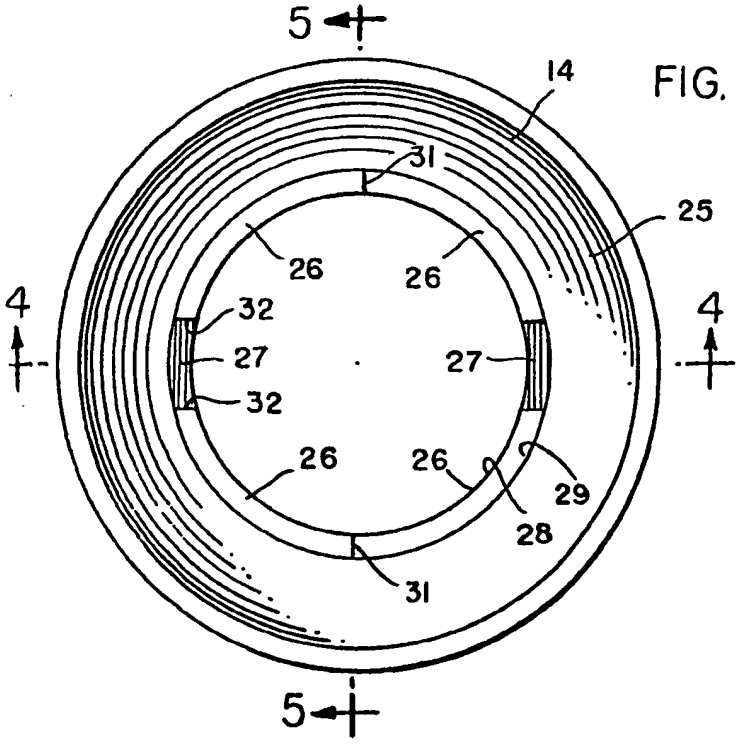


FIG. 3

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FIG. 4

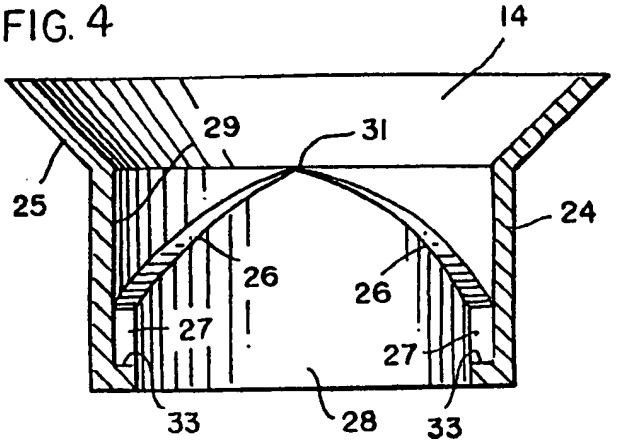


FIG. 5

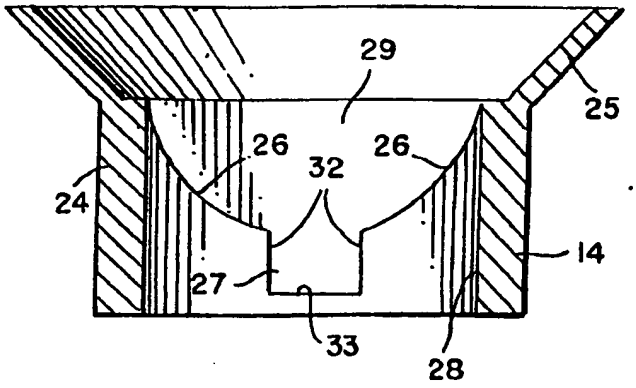


FIG. 6

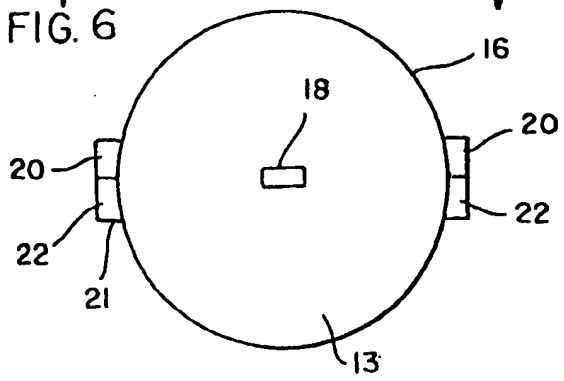


FIG. 8

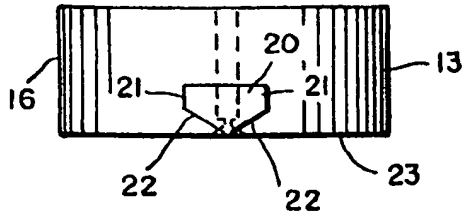
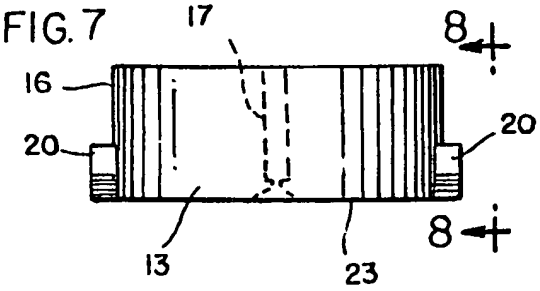


FIG. 7



SPECIFICATION

Actuator and orientator assembly

This invention relates to aerosol spray cans, and, more particularly, to an actuator and actuator-orientator assembly which automatically orientates the actuator when it is intended into the orientator so that the spraying orifice of the actuator is properly aligned.

Aerosol spray cans which are filled with marking materials such as paints, dyes, and the like are frequently used in marking traffic and parking lines on pavement, boundary lines on athletic fields, restricted areas on golf courses, and many other indicators. If an aerosol can is to be used for spraying a stripe of marking material, it is often desirable to provide the actuator or nozzle of the aerosol can with an elongate or slotted spraying orifice so that the material is sprayed in a well-defined stripe of the desired width. The aerosol cans are desirably mounted in a spraying apparatus which facilitates the marking operation. Wheel-equipped marking machines for spraying stripes are described, for example, in my prior US Patent Nos. 3,700,144 and 3,796,353, and hand-carried marking devices are described in my US Patent Nos. 3,485,206 and 3,977,570. Actuators with elongate or slotted spraying orifices are described in US Patent Nos. 3,817,429, 3,891,208, and 3,924,784.

If an actuator with an elongate spraying orifice is used, the actuator should be aligned with respect to the spraying apparatus so that the long dimension of the orifice extends perpendicularly to the direction in which the apparatus is advanced in order to make the widest stripe. In order to make the narrowest stripe, the long dimension of the orifice is aligned parallel with the direction of movement of the apparatus. Variations in stripe width between these two extremes are possible by varying the angle between the long dimension of the orifice and the direction of movement of the apparatus. One type of stripe-adjusting means is described in US Patent No. 3,924,784.

US Patent Nos. 3,817,429 and 3,891,128 describe an actuator with a flat aligning surface which is engageable with the actuating bar which slides transversely relatively to the axis of the aerosol can to align the elongate orifice of the actuator in a direction perpendicular to the direction of movement of the spraying apparatus. The actuating bar opens the valve of the aerosol can by moving the actuator.

The invention provides an actuator for an aerosol can and a means for orientating the actuator when the actuator is inserted into the orientator. The orientator may be mounted as part of the spraying apparatus, and the orifice of the actuator is automatically aligned as the actuator is inserted into the orientator.

The invention will now be explained by way of example only, in conjunction with an illustrative embodiment shown in the accompanying drawings, in which:—

Figure 1 is a fragmentary elevational view showing an actuator on an aerosol can being inserted downwardly into an orientator formed in accordance with the invention;

Figure 2 is a view similar to Fig. 1, showing the actuator fully inserted into the orientator;

Figure 3 is a top plan view of the orientator;

Figure 4 is a sectional view of the orientator taken along the line 4–4 of Fig. 3;

Figure 5 is a sectional view of the orientator taken along line 5–5 of Fig. 3;

Figure 6 is a top plan view of the actuator;

Figure 7 is a side elevational view of the actuator taken along the line 7–7 of Fig. 6; and

Figure 8 is a side elevational view of the actuator taken along the line 8–8 of Fig. 7.

Referring to Figs. 1 and 2, a conventional aerosol spray can includes a dome-shaped top 11 and a valve stem 12. The valve stem is part of a well known conventional aerosol valve which is housed within the top of the can.

Aerosol valves are generally of two types. In one type of valve the valve is opened to release the contents of the can when the valve stem is pushed axially with respect to the can (upwardly as viewed in Figs. 1 and 2). In another type the valve is opened when the valve stem is tilted laterally or transversely with respect to the can axis. Although the invention can be used with aerosol valves of both types, the invention works best with valves which are opened by pushing the valve stem axially.

An actuator or spraying nozzle 13 is mounted on the valve stem and is adapted to be inserted into an orientator 14, which is mounted on a spraying apparatus 15. The actuator has a circular outer wall 16 (Fig. 6), and a central bore 17 (Fig. 1) is sized to snugly receive the valve stem 12. The bore terminates in a spraying orifice 18, and a radially inwardly extending shoulder 19 in the bore engages the end of the valve stem and limits the movement of the actuator toward the can.

As can be seen in Fig. 6, the spraying orifice is elongate or rectangular and includes a long dimension and a short dimension. A pair of locating lugs 20 project outwardly from the surface 16 and are aligned with the longitudinal dimension of the spraying orifice. Each of the lugs includes a pair of parallel flat side surfaces 21 (Fig. 8) and a pair of convergent surfaces 22 which meet at the flat end surface 23 in which the spraying orifice 18 is provided.

The orientator 14 includes a generally tubular wall 24 and a radially outwardly flared

upper portion 25. By comparing Figs. 4 and 5, it will be seen that about half the thickness of the tubular wall of the orientator is recessed or notched to provide curved or spiral guide surfaces 26 and a pair of diametrically opposed rectangular recesses 27. The non-recessed portion of the tubular wall forms a cylindrical inner surface 28, and the recessed portion of the tubular wall forms an intermediate cylindrical surface 29. The distance between the cylindrical surfaces 28 and 29 provides the thickness of the guide surfaces 26, which appear annular when viewed from above (Fig. 3).

The orientator includes a total of four guide surfaces 26. Referring to Fig. 5, two guide surfaces spiral upwardly from each side of each of the recesses 27, and the guide surfaces which extend from the diametrically opposed recesses meet at a point 31 midway along the arc which extends between the two recesses (Fig. 4), i.e., at a point 90° removed from the centres of the recesses.

Each of the recesses 27 includes a pair of side surfaces 32 (Fig. 5) and a bottom surface 33 which is provided by the full thickness of the tubular wall 24. The distance between the side surfaces 32 is just slightly greater than the distance between the flat side surfaces 21 of the lugs on the actuator.

The orientator is mounted on the spraying apparatus 15 in any convenient fashion. For example, the actuator can be clamped in a split-ring clamping collar 34 (Figs. 1 and 2) on the spraying apparatus, and the collar can be tightened about the orientator by a nut and bolt. The particular spraying apparatus illustrated is adapted to spray the contents of the aerosol can downwardly, so the aerosol can is mounted in the apparatus in an inverted position. The aerosol can does not include a dip tube, and the contents of the can are expelled by the aerosol propellant when the can is in an inverted position.

When the aerosol can is moved downwardly toward the orientator, the actuator on the can is guided into the central opening of the orientator by the flared upper end 25 of the orientator. The diameter of the cylindrical side surface 16 of the actuator is slightly less than the diameter of the inner cylindrical surface 28 of the orientator, and the maximum diameter of the actuator across the lugs 20 is slightly less than the diameter of the intermediate cylindrical surface 29 of the orientator. Accordingly, the lugs will engage the curved guide surfaces 26 of the orientator unless the lugs are aligned with the recesses 27. The weight of the can will cause the lugs to slide downwardly along the curved guide surfaces toward the recesses as indicated by the arrow in Fig. 1, and the can and the actuator will rotate as they move downwardly to bring the lugs into alignment with the recesses. When the lugs reach the recesses, the lugs will drop into the recesses, and further rotation of the actuator will be prevented.

After the lugs are positioned in the recesses, the contents of the can may be sprayed by pushing the can downwardly so that the valve stem is moved axially upwardly relative to the can. The bottom surface 33 of each of the recesses engages the lug and prevents downward movement of the actuator and the valve stem when the can is pushed downwardly. The can may be pushed downwardly either manually or by mechanical actuating means on the spraying apparatus. Alternatively, the can could be fixed against upward movement, and the orientator and actuator could be pushed upwardly to open the valve.

The recesses of the orientator orient the spraying orifice of the actuator so that the long dimension of the orifice extends in the desired direction. If a stripe of maximum width is desired, the recesses are aligned transversely to the direction in which the spraying apparatus will be advanced so that the long dimension of the spraying orifice is also aligned transversely when the lugs of the actuator are position in the recesses. If a strip of minimum width is desired, the recesses are aligned parallel to the direction in which the spraying apparatus will be advanced so that the long dimension of the spraying orifice is also aligned parallel to the direction of movement. Variations in stripe width between the maximum and minimum can be obtained by positioning the orientator accordingly. The orientator is desirably mounted on the spraying apparatus in a manner which permits the orientator to be rotated to align the recesses in the desired direction. For example, the clamping collar 34 can be loosened when it is desired to rotate the orientator and tightened after the orientator has been positioned as desired.

CLAIMS (13 Oct 1978)

1. An actuator and orientator assembly for use with a spray can comprising:

(a) an orientator having

(i) an opening through which the contents of the can are sprayed,

(ii) at least two recesses extending laterally outwardly from the opening for receiving portions of the actuator,

(iii) guide surfaces which extend away from each of the recesses and which are inclined with respect to the axis of opening; and

(b) an actuator having a spraying orifice from which the contents are sprayed, the actuator including locating means which are engageable with the guide surfaces of the orientator when the actuator is inserted into the opening of the orientator and which are sized and arranged to be received by the recesses of the orientator for positioning of

the actuator relative to the orientator.

2. The assembly of Claim 1 in which the spraying orifice of the actuator is elongate.

3. The assembly of Claim 1 or claim 2 in which the locating means comprises at least two projections on the actuator.

4. The assembly of Claim 1 or claim 2 in which the actuator has a generally cylindrical outer surface and the locating means comprises at least two equiangularly spaced projections which project radially outwardly from the cylindrical outer surface.

5. The assembly of Claim 3 when appendant to Claim 2 or Claim 4 when appendant to Claim 2 in which the locating means comprises a pair of diametrically opposed said projections which are aligned with the long dimension of the orifice.

6. The assembly of any one of the preceding claims in which the spraying orifice of the actuator is generally rectangular.

7. The assembly of any one of the preceding claims in which the opening of the orientator is circular and the guide surfaces spiral around the opening and away from the recesses.

8. The assembly of claim 7 in which a pair of guide surfaces spiral away from each of the recesses in opposite directions.

9. The assembly of claim 8 in which each of the guide surfaces which spiral away from one of the recesses meets one of the guide surfaces which spiral away from the other recess.

10. The assembly of any one of the preceding claims in which the orientator includes a cylindrical surface which is concentric with the circular opening and which is positioned radially outwardly of the guide surfaces.

11. An actuator and orientator assembly for use with a spray can, said assembly being constructed, arranged and adapted to operate substantially as hereinbefore described with reference to, and as illustrated in, the accompanying drawings.

12. A spray can provided with an actuator of an actuator and orientator assembly according to any one of the preceding claims and for use with a said orientator.

CLAIMS (16 March 1979)

1. An actuator and orientator assembly for use with a spray can, said assembly comprising:

(a) an orientator having
  (i) an opening through which the contents of the can are sprayed,
  (ii) at least two recesses extending laterally outwardly from the opening for receiving portions of the actuator,
  (iii) at least one guide surface extending away from each of the recesses in a spiral direction with respect to the axis of the opening; and

(b) an actuator having a spraying orifice from which the contents are sprayed, the actuator including locating means which are engageable with the guide surfaces of the orientator when the actuator is inserted into the opening of the orientator and which are sized and arranged to be received by the recesses of the orientator for positioning of the actuator relative to the orientator.

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June 23, 1964 W. R. O'DONNELL 3,138,295

MOLDED PLASTIC AEROSOL CAP CONSTRUCTION

Filed March 5, 1962

Fig. 1

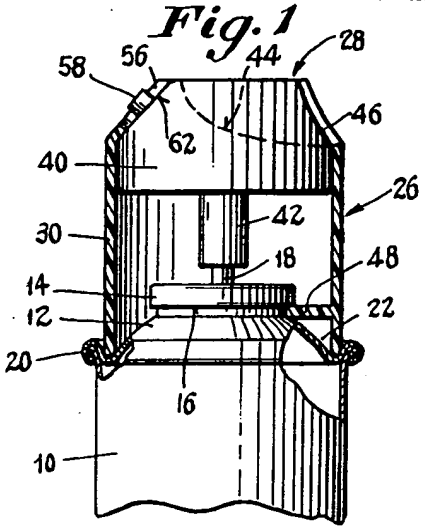


Fig. 3

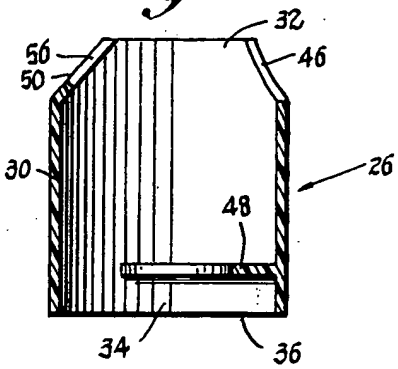


Fig. 4

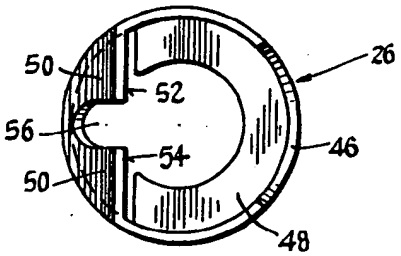


Fig. 2

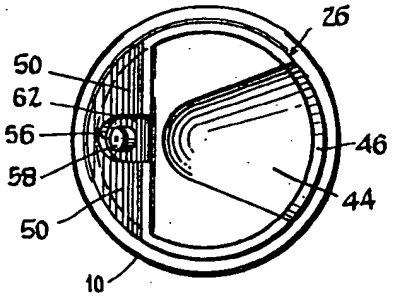


Fig. 5

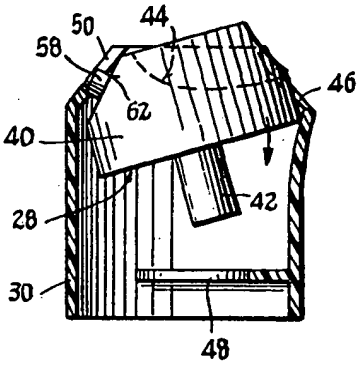
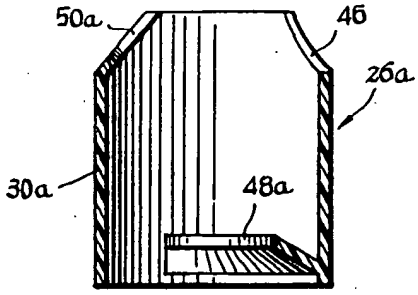


Fig. 6



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BY
H. Gibner Jehmann
AGENT

United States Patent Office 3,138,295 Patented June 23, 1964

3,138,295

MOLDED PLASTIC AEROSOL CAP CONSTRUCTION

William R. O'Donnell, Trumbull, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware

Filed Mar. 5, 1962, Ser. No. 177,624
8 Claims. (Cl. 222—182)

This invention relates to small hand-held aerosol devices of the type employing pressurized containers, and more particularly to the actuator cap constructions of such devices.

The invention concerns improvements in the aerosol cap construction described and claimed in the copending application of Philip H. Sagarin and William R. O'Donnell filed October 24, 1960, Serial No. 64,614 and now Patent No. 3,104,034 and which has common ownership with the present application.

The cap construction of this prior copending application comprises a valve actuator button having a top surface of relatively large expanse, which button is vertically slidable in a large or jumbo guard-type cap comprising a tubular body open at the top and having an integral angularly inward extending detent flange carried by its bottom portion for the purpose of securely retaining the cap on the pressurized container. In this prior construction the economical molding of the cap and lower detent flange as an integral part thereof necessitated the top of the cap being completely open to avoid complicated molding cavities and equipment. Thus, the valve actuator button had to be completely accessible and fully exposed at the top of the cap construction, such button being applied to the valve stem after the placement of the cap on the container was completed. With such organization the valve actuator button was readily removable from the aerosol device by virtue of the guard cap being fully open at the top and not having any operative detent means which would serve to securely retain the button in its operative position after such button was put in place. In this prior construction the frictional engagement between the actuator button and the valve stem was relied on to effect such retention of the button in the guard cap.

In accordance with the present invention there is provided a locking type aerosol cap member which is in some respects similar to the guard cap of the copending application above referred to, but wherein an effective integral detent means is provided on the cap structure in addition to the detent flange which retains the structure on the pressurized container, such additional detent means serving to securely retain the valve actuator button in its operative position in the cap, this being accomplished while still retaining the simplicity of molding of the cap construction, utilizing simple mold cavities which are devoid of movable core parts and the like.

Accordingly, an object of the invention is to provide a novel and improved molded plastic cap construction for an aerosol device of the general type shown in the identified copending application, wherein the cap proper or cap member has molded, integral lower and upper detent means for respectively securing the cap on the pressurized container and securely retaining the valve actuator button in the cap, said detent means and cap construction however still retaining the simplicity of the prior cap and being capable of fabrication in simple mold cavities.

Another object of the invention is to provide an improved cap construction in accordance with the foregoing, wherein the detent means which secures the cap to the pressurized container is extremely effective in its operation, and effects a secure locking of the cap on the container against inadvertent or accidental removal.

A further object of the invention is to provide an improved molded plastic aerosol cap construction as above outlined, wherein the upper detent means is positive in its action, in functioning to retain in operative position the valve actuator button.

A feature of the invention resides in the provision of a novel one-piece molded cap body member as characterized, wherein the avoidance of costly mold cavities and a difficult-to-mold cap body formation is effected by a novel offset arrangement of the upper and lower detent means, by which these are offset both vertically and horizontally with respect to each other to avoid the necessity for retractable mold parts or cores, and to enable mold cavities of the simplest possible nature to be utilized.

Another feature of the invention resides in the provision of an improved molded plastic cap construction involving a valve actuator button and a cap proper as above outlined, wherein the actuator button may be preassembled to the cap body in a simple and facile manner prior to these being assembled to the pressurized container.

Still another feature of the invention resides in the provision of a novel plastic cap construction as above set forth, wherein the attaching of the cap assemblage to the pressurized container automatically effects and places a restriction on the movements of the actuator button whereby the latter is locked in its operative position and is prevented in a positive manner from being removed at any subsequent time.

Other features and advantages will hereinafter appear.

In the drawings accompanying this specification, similar characters of reference are used to designate like components or portions throughout the several views, wherein:

FIG. 1 is a view partly in side elevation and partly in axial section, of an aerosol device having the present improved aerosol cap construction.

FIG. 2 is a top plan view of the areosol device and cap construction.

FIG. 3 is an axial sectional view of the cap proper or cap member of the cap construction.

FIG. 4 is a top plan view of the cap of FIG. 3.

FIG. 5 is an axial sectional view of the cap construction illustrating the insertion of the valve actuator button in the cap body or member.

FIG. 6 is an axial sectional view similar to that of FIG. 3, but showing a modified form of cap construction.

Referring first to FIGS. 1–5, the aerosol device and cap construction shown therein comprises a container **10**, which may be of the usual pressurized type having a constricted neck portion **12** and shoulder-providing collar **14**, the latter being so arranged as to provide a downwardly facing annular shoulder **16**. The pressurized container **10** also has a depressible valve stem **18** for operating a valve and metering organization which is carried generally within the constricted neck portion **12**. The container **10** has an upper peripheral edge **20** arranged to provide an annular groove or recess **22** at the base of the constricted neck portion **12**.

In accordance with the present invention there is provided a novel and improved molded plastic cap construction constituted essentially of two separate resilient or yieldable plastic pieces or parts **26** and **28**, made from polyethylene or similar formulations. The part **26** has a tubular cap body **30** which is generally of cylindrical configuration, said body having open upper and lower ends **32** and **34** respectively.

The bottom edge **36** of the body **30** is circular and arranged to be accommodated in the annular groove or recess **22** at the top of the container **10**.

Slidably carried in the cap body **30** is the valve actuator button **28**, said button having a cylindrical outer bearing surface **40** for engagement with the inner cylindrical surface of the cap body **30**. The valve actuator button **28** has a depending hollow boss **42** adapted to frictionally

fit over the valve stem 18 as shown in FIG. 1. In its top portion the valve actuator button 40 has a somewhat V-shaped depression or recess 44 adapted to receive a finger of the hand which is holding the aerosol device, for the purpose of effecting a depressing movement of the button. Likewise, the upper adjoining wall portion of the cap 26 has a semi-circular cut-out or notch 46 corresponding to and extending flush with the finger depression 44 of the button to enable the actuating finger to be readily applied, as will be understood.

In accordance with the invention, the button 28 and the cap 26 are so constituted and arranged that each may be readily economically molded of plastic substance in simple mold cavities which are devoid of retractable parts, cores and the like, while at the same time the cap body has integral detent portions at its top and bottom for the purpose of attaching the body 30 securely to the container 10 and for the purpose of securely retaining the actuator button 28 in the cap body. In effecting this, the body 30 is provided with a semi-circular inner detent flange 48 adapted to engage the constricted neck portion 12 of the container 10 at the underside of the annular shoulder 16, the said flange forcibly gripping the neck and retaining the cap construction in place on the container. The cap body 30 also has a second inwardly extended flange or ledge 50 disposed at a location opposite to the detent flange 48 and extending angularly upward and inward from the cylindrical side wall of the cap body. The ledge 50 is somewhat in the shape of a segment of a circle or circular disk, being defined by the circular peripheral wall of the cap body and also having aligned straight edges 52 and 54 extending along a chord. The ledge 50 has a notch or recess 56 to provide clearance for an orifice member 58 on the actuator button 28.

As seen in FIG. 4, in accordance with the present invention the lower and larger detent flange 48 is offset from the upper and smaller detent flange or ledge 50 considering the vertical, whereby neither detent flange overlaps the other in a vertical direction. By such construction it is possible readily to mold the cap part 26 as a single piece in simple cavities without the use of draw pins, retractable plungers or similar mold parts. Instead, with the present construction, the cap part 26 may be easily and economically molded with the flanges 48 and 50 constituting integral parts of the cylindrical body 30. From FIG. 4 it will be observed that the lower internal detent flange 48 extends through an arc which is appreciably greater than 180° whereby it may be securely attached to the constricted neck portion 12, 14 of the container 10. Such attachment may be readily effected by merely pressing the cap part 26 in place on the top of the container, to the position shown in FIG. 1. Prior to such attachment it is preferred to assemble the valve actuator button 28 to the cap, and the procedure for such assembly is illustrated in FIG. 5. It is here seen that the button 28 is in a tilted position, and that the resilient nature of the plastic substance from which the cap and button are molded is such that the upper portion of the cap may be bent outward slightly and the lower portion of the button correspondingly bent inward slightly to enable the button to be pulled into the cap body to the operative position shown in FIG. 1. The upper detent flange or ledge 50, engages a sloping front surface or face 62 provided on the button 28 and closely fits the same when the button is in its normal raised position.

After the button has been inserted in the cap proper in the aforesaid manner, the assemblage is applied to the container with the valve stem 18 extending into the depending boss 42 of the button. As the assemblage is pressed downward on the container 10, the lower detent flange 48 will be forced into place around the constricted neck portions 12, 14 of the container and will securely hold the assemblage in place against inadvertent or accidental dislodgment or removal. In operation, the valve actuator button 28 is merely depressed to effect opening of the valve and discharge of the contents of the pressurized container 10.

Another embodiment of the invention is illustrated in FIG. 6. In this figure there is shown a modified cap structure 26*a* having an upper ledge formation 50*a* similar to the ledge 50 shown in FIGS. 1–5. At its lower portion, the cap body 30*a* has an integral semi-circular inwardly extended detent ledge or flange 48*a* which has a somewhat conical formation. That is, the ledge 48*a* not only extends inward from the cylindrical side wall 30*a* but also in an upward direction as illustrated. When the cap part 26*a* is applied to the container 10 as explained above in connection with the cap part 26, the detent flange 48*a* will more easily pass over the collar portion 14 of the neck due to the angularity or slope of the flange. However, if a removing force should be applied to the cap 26*a*, the angularity of the flange 48*a* will cause it to more securely grip the constricted neck portion 12, 14, thereby enabling it to stoutly resist removal of the cap and button assemblage. The molding of the cap part 26*a* may be effected in the same simple and facile manner that characterizes the molding of the cap 26.

It will now be seen from the foregoing that I have provided an improved cap construction for an aerosol device wherein the cap proper or cap body has inwardly extended detent flanges which are both horizontally and vertically offset from each other in such a manner that they may be formed as an integral part of the cap body without requiring complicated mold cavities. The lower detent means securely retains the cap assemblage on the pressurized container, whereas the upper detent means securely retains the actuator button in the cap body. The engagement of the valve stem 18 and boss 42 prevents any possible tilting of the button whereby removal of the same is prevented.

Variations and modifications may be made within the scope of the claims, and portions of the improvement may be used without others.

I claim:

1. An aerosol cap construction comprising, in combination:

(*a*) a molded, one-piece tubular cap body having open bottom and top ends and having within each of said ends a different core space adapted to be formed by separate core portions of different parts of the molds,

(*b*) said body in its upper portion having bearing means for guiding a depressible valve actuator button,

(*c*) the upper portion of the body having a ledge extending inward from the side walls at a location disposed at one side of the body axis, said ledge constituting one of the borders of the core space at the top end of the body and having an undersurface which is fully accessible from the core space at the bottom end of the body whereby said surface may be formed by a core portion extending into the body from the open bottom end thereof,

(*d*) said body at its lower portion having an inwardly extending detent flange disposed at a location on the opposite side of the body axis,

(*e*) said detent flange being substantially semi-circular and extending through an arc of more than 180°, and constituting one of the borders of the core space at the bottom end of the body, said flange having an upper surface which is fully accessible from the core space at the top end of the body whereby said surface may be formed by a separate core portion extending into the body from the open top end thereof,

(*f*) the said ledge and flange being offset vertically with respect to each other, thereby to enable the cap body to be readily molded in simple cavities having fixed cores, without requiring retractable cavity parts.

2. An aerosol cap construction as in claim 1, wherein:

(a) the said detent flange is dished and constituted essentially as a portion of a conical section.

3. An aerosol cap construction as in claim 1, wherein:

(a) the said ledge comprises a minor segment of a circle bounded by a portion of the periphery and a chord subtending said periphery portion.

4. An aerosol cap construction as in claim 1, wherein:

(a) the ends of the said detent flange are disposed substantially vertically below the inner edge of the said ledge whereby no overlap exists between the ledge and flange, considering a vertical direction.

5. An aerosol cap construction as in claim 1, wherein:

(a) the said ledge extends angularly upward from the periphery of the cap body in a direction toward the body axis, and

(b) the outer surface of the ledge is visible at the front side of the cap body and constitutes an upward continuation of the said front side.

6. An aerosol cap construction as in claim 1, wherein:

(a) there is a valve actuator button vertically movable in the cap body, and

(b) said actuator button has a portion disposed below the said ledge and has another portion disposed above the said detent flange.

7. An aerosol cap construction as in claim 6, wherein:

(a) the said ledge extends angularly upward from the periphery of the cap body in a direction toward the body axis, and

(b) the actuator button has a sloping top surface disposed below and engageable with the said ledge.

8. An aerosol cap construction as in claim 7, wherein:

(a) the upper portion of the cap body at a location opposite to the ledge is cut away to provide clearance for insertion of the actuator button.

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